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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,728	05/24/2006	Yan Li	CN03 0072 US1	6465
24738 7590 05/11/2009 PHILIPS INTELLECTUAL PROPERTY & STANDARDS PO BOX 3001 BRIARCLIFF MANOR, NY 10510-8001				
EXAMINER				
BOCURE, TEFALDET				
ART UNIT		PAPER NUMBER		
2611				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,728

Applicant(s)

LI ET AL.

Examiner

Tesfaldet Bocure

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-21 is/are allowed.
- 6) ☒ Claim(s) 1-8, 22 and 24 is/are rejected.
- 7) ☐ Claim(s) 23 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/24/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-25 are pending in this Application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The Information Disclosure Statement (IDS) received on 5/24/06 has been received and the initialed copy (one page) of the IDS is attached with this correspondence.

Drawings

4. The originally filed drawings on 5/24/06 have been accepted by the Examiner.

Specification

5. The abstract of the disclosure is objected to because the abstract of the disclosure should be in a separate sheet rather than a copy from the related PCT application. Correction is required. See MPEP § 608.01(b).

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

6. The disclosure is objected to because of the following informalities: quite few of the same word in the specification are separated by space, to mention few:

“oft en” in page 2, line 8 should be amended to read as---often...;

“wor king” in page 2, line 22 should be amended to read as --- working---;

“syn chronization” in page 3, line 7 should be amended to read as ---
synchronization---.

Examiner is kindly requesting applicant to review the entire specification for such typo errors indicated above since there plenty of words with spaces between them.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-8 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

The claimed steps of , determining, calculating and estimating are nothing but data manipulation which can be done by hand without tying to any particular apparatus to perform the intended result.

Examiner suggests Applicant to add " determining unit, calculating unit and estimating unit" to the claimed steps in claim 1-8 to overcome the 101 issue above.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa (US patent publication number 2001/0041536).

5. Hasegawa teaches a CDMA receiver for receiving a spread spectrum signal comprising: a plurality of RAKE fingers 10 for receiving and despreading the received signal; RAKE circuit 15 for weighting and combining the output of the RAKE fingers and

a frequency estimation unit 11 for estimating the frequency offset of the received signal for further adjusting the frequency of the internal local oscillator as in claims 22 and 24.

Hasegawa shows that a single frequency estimating unit as oppose to teach of the RAKE finger having an associate frequency estimators as in claims 22 and 24. However, the single frequency estimator 11 of Hasegawa have a functionally equivalent as that of the claimed plurality of frequency estimator for estimating the plurality of signals outputted from the RAKE fingers and is one step ahead of the claimed plurality because single frequency estimator takes less space as oppose to plurality of estimators.

Therefore, it would have been obvious to one of an ordinary skill in the art to use single frequency estimator as oppose to plurality of frequency estimator for minimizing the space of the receiver and less weight of the system at the time the invention was made.

Further to claim 24, Hasegawa shows that a single receiving antenna as oppose to a plurality of antennas as claimed. However, such space diversity in CDMA technology is notoriously known and examiner is taking an official notice¹.

Therefore, it would have been obvious to one of an ordinary skill in the art to replace the signal antenna to correspond to the number of RAKE fingers in order to overcome multipath fading of the received signal at the time the invention was made.

¹ To mention some of the patent publication with a RAKE receiver having a plurality of antenna, reference should be made to 2003/0035468, 2005/0069023 and 2003/0206577.

Allowable Subject Matter

6. Claims 1-8² and 9-21 are allowed.
7. Claims 23 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: the claimed subject matter in claims 9-21, 23 and 25 is allowable because the arts of record fail to teach or fairly suggest the claimed "an apparatus (claimed radio receiver in claim 17) of frequency estimation for the down link of wireless communication system comprising: an estimating unit, for estimating the frequency offset of the radio signals, according to the phase shift difference between the midamble and the downlink synchronization code of the radio signals and the relationship between the expected midamble and the downlink synchronization code; in combination with the claimed determining unit, cell searching unit in claim 17, and the calculating unit in claims 1,9,17,23 and 25
- .

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

² The claimed subject matter in claims 1-8 is rejected only under 101 and would be allowable if applicant amends the claimed subject to overcome the 101 issue.

- a. US patent publications 2007/0098116 and 2007/0104252 issued to Kim et al. and Jang et al. respectively disclose a TD-CDMA receiver having means for estimating the frequency offset according to the received midamble and sync. Code (date no good).
- b. US patent publication number 2003/0181183 and EP patent number 1-511186 issued to Ventura and Muralihar et al. respectively disclose a rake receiver having means for estimating the frequency offset of the received spread spectrum signal.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (8:00a-5:30p) & Mon.-Fri (8:00a-5:30p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tesfaldet Bocure/
Primary Examiner, Art Unit 2611

/T. B./
Primary Examiner, Art Unit 2611